

## Mysid Crustaceans (Mysidacea) from Palau, Northwestern Pacific

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**Abstract.** Mysid crustaceans, representing five genera within the family Mysidae (Mysidacea), are reported from shallow coastal waters, including submarine caves, of the Palau Islands. Among the six species reported here, five are new records for the Palauan fauna.

**Key words:** Taxonomy, Mysidacea, Palau Islands, northwestern Pacific.

### Introduction

A faunal survey of the Palau Islands was carried out in 2002, primarily aimed at a biodiversity assessment of decapod Crustacea. Although Mysidacea only formed part of the incidental collections, several species were obtained from shallow coastal waters, including a few samples from submarine caves. To date, the mysid fauna of Palau has been poorly understood, with only five species having been reported: *i. e. Siriella anomala* Hansen, 1910; *Anisomysis incisa* Tattersall, 1936; *A. pelewensis* Ii, 1964; *Aberomysis muranoi* Băcescu & Iliffe, 1986; and *Palaumysis simonae* Băcescu & Iliffe, 1986 (Ii, 1964; Murano, 1983; Băcescu & Iliffe, 1986; Hanamura & Kase, 2000, 2003). This is despite the potentially high biodiversity of Mysidacea in Palauan coastal waters, in common with many other Indo-Pacific locations.

The present contribution aims to partially rectify this paucity of records by reporting a total of six

species of mysids; amongst which are five new to the Palauan fauna.

Only restricted synonymies are provided, consisting of the original description and relevant recent references (basically the 1990's onwards). Total length, measured from the rostrum to the posterior end of the telson, was used as a standard measurement. All specimens dealt herewith are deposited in the Zoological Collections of the Oxford University Museum of Natural History, Oxford (OUMNH).

### Taxonomy

*Siriella media* Hansen, 1910

(Figs 1a, b)

*Siriella media* Hansen, 1910: 38, pl. 4, fig. 3; Ii, 1964: 125, figs 33–34; Wang & Liu, 1994: 80, fig. 9; Fukuoka & Murano, 1997: 521; Liu & Wang, 2000: 95, fig. 16.

**Material.** 1 juvenile (6.3 mm), Lighthouse Reef, outer side, from rubble (mainly *Acropora* plates and bushy forms, heavily encrusted), – 5 m depth, 07°16.615'N, 134°27.606'E, leg. S. De Grave & C. Burras, 21 May 2002, field no. 52, OUMNH Zoo.

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Coll. 2002-24-0032; 2 ovigerous females (*ca* 10.5, 10.5 mm), Pkuklim Reef, Halimeda clumps on reef rubble, from *Halimeda* (Chlorophyta) washings, –6 m depth, 07°20.542'N, 134°34.023'E, leg. S. De Grave & C. Burras, 29 May 2002, field no. 246, OUMNH Zoo. Coll. 2002-24-0033.

Remarks. Hansen (1910) remarked that females of this species are hardly distinguishable from the closely related species, *Siriella inornata* Hansen, 1910. According to him, the former species differs from the latter in having slightly larger eyes and a more produced frontal plate. The antennal scale of the present material (Fig. 1a) is slightly longer than as illustrated in the original description of *S. inornata*, although the general shape of the rostrum and cephalic appendages (Fig. 1a) agrees with the illustration of *S. media* by Ii (1964), Wang & Liu (1994) and Liu & Wang (2000). The identification of the present material is, however, tentative and further material (particularly males) is needed to confirm the presence of *S. media* in Palau.

Distribution. *Siriella media* has been recorded with reasonable certitude in the tropical western Pacific from Indonesia, Gilbert Islands, Philippines, South China Sea, Japan. Not previously recorded from Palau.

***Siriella vulgaris* Hansen, 1910**

(Figs 1c–f)

*Siriella vulgaris* Hansen, 1910: 34, pl. 3, figs 2a–k; Wang & Liu, 1994: 80, fig. 9; Fukuoka & Murano, 1997: 521, figs 2f, g; Fukuoka & Murano, 2002: 59; Liu & Wang, 2000: 99, fig. 18.

Material. 1 juvenile (3.0 mm), Bat Cave, light trap sample, –2 m deep, no exact locality, leg. S. De Grave & C. Burras, night, 19–20 May 2002, field no. 29, OUMNH Zoo. Coll. 2002-24-0034; 1 male (7.2 mm), Beluu Lukes Reef, reef slope, from *Pericharax heteroraphaus* Polejaeff, 1884 (Porifera: Leucettidae), –15 m depth, 07°17.530'N, 134°30.870'E, leg. S. De Grave & C. Burras, 27 May 2002, field no. 184, OUMNH Zoo. Coll. 2002-24-

0035; 1 ovigerous female (*ca* 6.5 mm), Ngeruktable Lake, NW side of Ngeruktable Island, algal and sponge washings, 07°16.80'N, 134°25.92'E, leg. S. De Grave & L. Martin, 28 May 2002, field no. 212, OUMNH Zoo. Coll. 2002-24-0036; 1 juvenile (3.2 mm), Uiebsechel Reef, bait trap, depth not known (catch from two traps mixed), 07°19.480'E, 134°28.460'E, leg. S. De Grave & C. Burras, night 29–30 May 2002, field no. 256, OUMNH Zoo. Coll. 2002-24-37; 2 males (*ca* 5.5, 6.5 mm) 1 ovigerous female (6.0 mm), 3 juveniles (*ca* 3.4–4.7 mm); Soft Coral Arch, sandy/muddy bottom at base of vertical wall, rubble collection, –10 m depth, 07°16.044'N, 134°22.957'E, leg. S. De Grave, 31 May 2002, field no. 282, OUMNH Zoo. Coll. 2002-24-38.

Remarks. The rostral shape in the present specimens shows considerable variation, as already suggested by Murano (1990), from a low, broad triangular shape to a narrow, long triangular rostrum, which barely reaches the cornea (Figs 1c, e, f). Tattersall (1951) established the subspecies *S. vulgaris rostrata* for a form, in which the rostrum is sharply triangular and reaches the end of the cornea. In the present material, we could not find any further differences associated with rostral shape, and it appears possible that this subspecies is merely an extreme variation within a morphologically variable species. To resolve this question, further studies based on more extensive and geographically widespread material is required.

Distribution. Arabian Sea, India, Andaman Sea, Gulf of Thailand; Philippine-Indonesian region, South China Sea, northern Australia, West Pacific islands, East China Sea, southern Japan. Not previously recorded from Palau.

***Hemisiriella parva* Hansen, 1910**

(Figs 2a–c)

*Hemisiriella parva* Hansen 1910: 47, pl. 6, fig. 2; Wang & Liu, 1994: 89, fig. 13; Liu & Wang, 2000: 111, fig. 26; Fukuoka & Murano, 2002: 57; Panampunnayil, 2002: 374, figs 2c–f.

Material. 5 males (*ca* 5–6.0 mm), 1 ovigerous

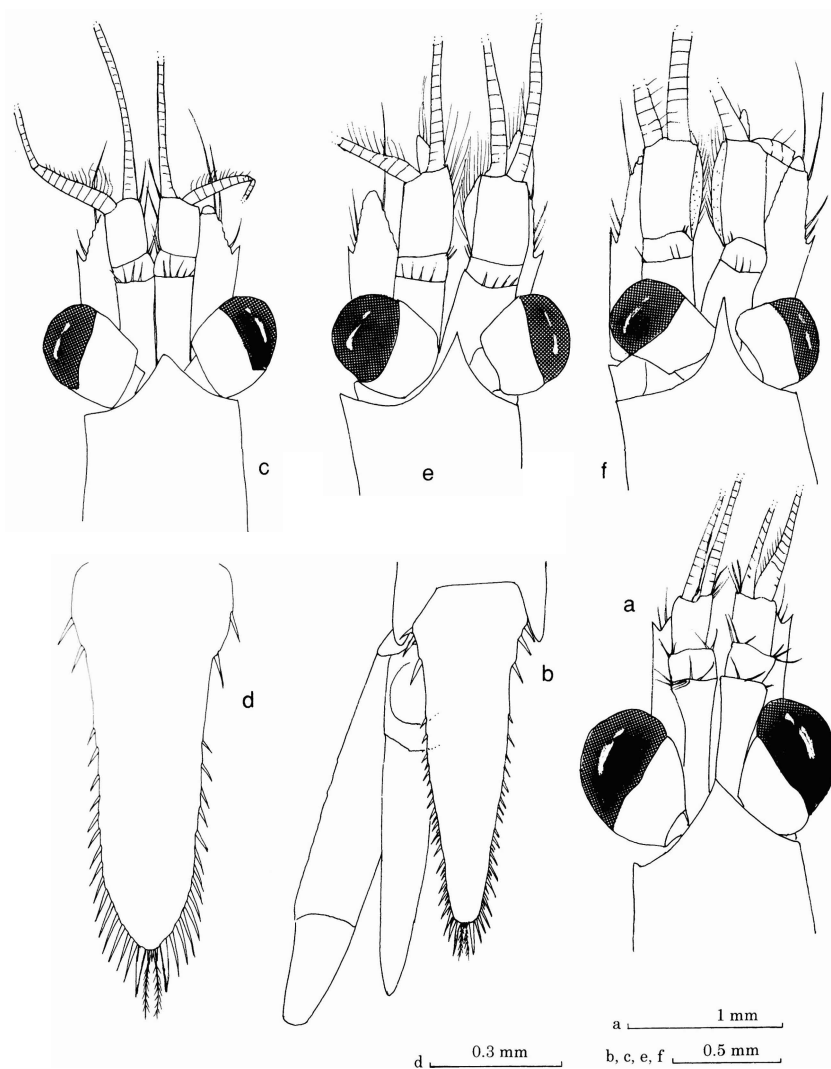


Fig. 1. *Siriella media* (a, b) and *S. vulgaris* (c–f). a: anterior part of carapace and cephalic appendages, ovig. female, tl 10.5 mm; b: telson and uropod of same specimen; c–f: anterior part of carapace of ovig. female, tl 6.5 mm (c, d), male, tl 6.5 mm (e), and male, tl 7.2 mm (f).

female (6.0 mm), 6 females (5.0–7.0 mm), 2 juveniles (4.0–4.5 mm), Soft Coral Arch, sandy/muddy bottom at base of vertical wall, rubble collection, –10 m depth, 07°16.044'N, 134°22.957'E, leg. S. De Grave, 31 May 2002, field no. 282, OUMNH Zoo. Coll. 2002-24-0039.

Remarks. The present specimens have comparatively larger eyes, and an endopodal uropod, which

is distinctly shorter or at most subequal to the exopod (Figs 2a, b). The telson of the present specimens bears three, infrequently four, basal spines and has no distinct constriction just posterior to the basal spine series, thus exhibiting the diagnostic features of *Hemisiriella parva* (Fig. 2c).

Distribution. Indian Ocean, Andaman Sea, Malacca Strait, Philippine-Indonesian region, east

coast of Australia, Micronesia, South China Sea. Not previously recorded from Palau.

***Anchialina grossa* Hansen, 1910**

(Figs 2d, e)

*Anchialina grossa* Hansen, 1910: 54, pl. 7, fig. 3, pl. 8, fig. 1; Liu & Wang, 2000: 141, fig. 40.

*Anchialina frontalis* Zimmer, 1915: 159, figs 1–6.

**Material.** 2 males (4.5, 4.8 mm), 2 ovigerous females (6.0, 6.2 mm), 6 females (4.5–5.8 mm), 1 juv. (3.6 mm); Soft coral arch, sandy/muddy bottom at base of vertical wall, rubble collection, –10 m depth, 07°16.044'N, 134°22.957'E, leg. S. De Grave, 31 May 2002, field no. 282, OUMNH Zoo. Coll. 2002-24-0040.

**Remarks.** The two male specimens are immature, with the third pleopod not fully developed. Other features agree well with the diagnostic characters of *A. grossa* (Figs 2d, e).

**Distribution.** India, Gulf of Bengal, Andaman Islands, Indonesia, Philippines, east coast of Australia, Gilbert Islands, South China Sea. Not previously recorded from Palau.

***Pseudanchialina inermis* (Illig, 1906)**

(Fig. 2f)

*Chlamedopleon inermis* Illig, 1906: 209.

*Pseudoanchialina inermis*: Hansen, 1910: 61, pl. 9, fig. 2; Wang & Liu, 1994: 95; Fukuoka & Murano, 1997: 525; Liu & Wang, 2000: 150, fig. 44.

*Pseudoanchialina sibogae* Nouvel, 1944: 267.

*Pseudoanchialina erythraea* Nouvel, 1944: 267.

**Material.** 1 male (2.2 mm), Soft coral arch, sandy/muddy bottom at base of vertical wall; rubble collection, –10 m depth, 07°16.044'N, 134°22.957'E, leg. S. De Grave, 31 May 2002, field no. 282, OUMNH Zoo. Coll. 2002-24-0041.

**Remarks.** The present specimen has a relatively narrow and short rostrum, reaching the distal third of the basal segment of the antennular peduncle, the

antennal scale reaching the midlength of the distal segment of the antennular peduncle, and the telson slightly more than 3 times as long as wide, with 5 pairs of lateral spines (Fig. 2f).

Pillai (1973), who examined numerous specimens from the Indian Ocean, suggested that *Pseudoanchialina erythraea* Nouvel, 1944, and *P. sibogae* Nouvel, 1944, might be synonyms of *P. inermis*, followed by subsequent workers (Valbonesi & Murano, 1980; Wang & Liu, 1987; Liu & Wang, 2000). Available data appear to show a slight tendency of geographical variations in the number of lateral telson spines, with the western Indian Ocean populations having most frequently three spines (Nouvel, 1944; Băcescu, 1975), while four or five spines are normally found in the populations of the central Indian Ocean and further east (Hansen, 1910; Pillai 1965, 1973; Wang & Liu, 1994; Valbonesi & Murano, 1980; Murano, 1983; Liu & Wang, 2000).

**Distribution.** Tanzania. Suez Canal, Red Sea, Indian Ocean, Malacca Strait, Indonesia, Micronesia, South China Sea. Japan. Not previously recorded from Palau.

***Palaumysis simonae* Băcescu & Iliffe, 1986**

*Palaumysis simonae* Băcescu & Iliffe 1986: 31, fig. 2; Hanamura & Kase, 2000: 255, figs 1, 2; Hanamura & Kase, 2003: 151, figs 4a, b, 5.

**Material.** Numerous specimens including ovigerous females, Mysid cave, Ngargol Island, hand netting, leg. Hamner, July 1999, leg. P. Colin (part of sample maintained in CRRF collection), OUMNH Zoo. Coll. 2002-24-0042; numerous specimens including ovigerous females; Unnamed cave by Soft Coral Arch, hand netting, –12 m depth, 07°16.044'N, 134°22.957'E, leg. P. Colin, 31 May 2002, field no. 279, OUMNH Zoo. Coll. 2002-24-0043.

**Remarks.** The present two samples contain larger numbers of specimens. The two samples exhibited a significant sexual difference, with fully mature females (with a well developed marsupium) constituting 60% of the 1999 sample (OUMNH Zoo. Coll.

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